

**Contacts:**

SNS Instrument Hall	
Coordinator	241-4432
ORNL LSS	574-6606
Computer Helpline	241-6765
ORNL Taxi	680-2303
	680-9800
Weather	574-9836
SNS	
Control Room	576-1503
RCT Support (radiation control technician)	274-8658
User Support	241-4432
User Office	574-4600
HFIR	
Control Room	574-7035
RCT Support (radiation control technician)	574-6713
User Office	574-4523

SNS Café, Bldg 8600

Breakfast hours: M-F, 7:00 am – 9:30 am
 Lunch hours: M-F, 10:45 am – 1:15 pm

HFIR Canteen, Bldg 7910

Lunch hours: M-F, 10:45 am – 1:15 pm

For questions or comments email us:
neutrons@ornl.gov

neutrons.ornl.gov

Follow Us



Research Spotlight

Supersolid helium and superfluid components in solid helium

Researchers who previously detected an unknown structural transition in solid helium have returned to the **Cold Neutron Chopper Spectrometer at SNS** to investigate further the nature of what may lead to the discovery of a new supersolid quantum state. Early indications are that this new state is not in equilibrium, which suggests that the superfluid properties of solid helium may be connected to a nonequilibrium state. The researchers will try to determine the microscopic origin of the superflow transition and of a transition from a solid to a “supersolid” state in helium. The CNCS neutrons are the only tool that can see what such a nonequilibrium state is like. “Oscillator experiments don’t show structure as neutrons can,” says SNS researcher Hans Lauter. “Something should be visible that shows whether we are dealing with a supersolid state or a superfluid state.” The researchers are using a helium single crystal for their experiments. They will transfer their data to the ORNL computing center to perform microscopic, many-body physics calculations that deal with collective behaviors in systems that contain vast assemblies of interacting particles. Collaborating are Louis Santodonato, Justin Carmichael, Andrey Podlesnyak, Souleymane Omar Diallo, and Hans-Jochen Lauter, all of NSCD at ORNL; John Goodkind, University of California–San Diego; Eckhard Krotscheck, State University of New York–Buffalo; Ivan Kalinin, Institute of Physics and Power Engineering; and John Reppy, Cornell University.

This Week's Users

SNS, BASIS (BL-2)

Emiliano Fratini (Florence Univ)
 Herbert Rossetto (Univ of Birmingham)
 Wei-Shan Chiang
 Eugene Mamontov (ORNL NScD)
 Souleymane Omar Diallo (ORNL NScD)

SNS, MAGICS (BL-4A)

Stephen Wilson (Boston College)
 Chetan Dhital (Boston College)
 Sunil Sinha (Univ of California)
 Oleg Shpyrok (Univ of California)
 Edwin Fohtung (Univ of California)
 Vojtech Uhlir (Univ of California)
 Moses Marsh (Univ of California)
 San-Wen Chen (Univ of California)

SNS, Liquids Reflectometer (BL-4B)

Sidney Kilbey II (Univ of Tenn)
 Chaitra Deodhar (Univ of Tenn)
 Camille Kite (Univ of Tenn)

SNS, CNCS (BL-5)

Craig Brown (NIST)
 Matthew Hudson (NIST)
 Dirk Volkmer (Univ of Augsburg)
 Michael Hirscher (Max-Planck Institut)

SNS, EQ SANS (BL-6)

Yun Liu (NIST)
 Xin Li (Rensselaer Polytechnic Inst)
 Chun-Jen Su
 Yen-Chih Huang (Nat'l Tsing Hua Univ)
 Chia-Ying Chen (Nat'l Tsing Hua Univ)
 Shi-Chieh Lin (Nat'l Tsing Hua Univ)
 Hsin-Lung Chen (Nat'l Tsing Hua Univ)
 Chun-Yu Chen (Nat'l Tsing Hua Univ)
 Jian-Wei Huang (Nat'l Tsing Hua Univ)
 Shih-Chieh Lin (Nat'l Tsing Hua Univ)
 Cheng-Che Yang (Nat'l Tsing Hua Univ)
 Po-Yu Chen (Nat'l Taiwan Univ)
 E-Wen Huang (Nat'l Central Univ)
 Chung-Kai Chang (Nat'l Central Univ)
 Kuan-Wei Lee (Nat'l Central Univ)
 Kunlun Hong (ORNL CNMS)
 Kenneth Herwig (ORNL NScD)
 Wei-Ren Chen (ORNL NScD)
 Gregory Smith (ORNL NScD)
 Yang Zhang (ORNL NScD)
 Bin Wu (ORNL NScD)
 Yuri Melnichenko (ORNL NScD)
 Dazhi Liu (ORNL NScD)

SNS, VULCAN (BL-7)

Ismail Noyan (Columbia Univ)
 Seung-Yub Lee (Columbia Univ)
 Mikhail Treger (Columbia Univ)
 Bingying Xu (Columbia Univ)
 Hande Ozturk (Columbia Univ)
 Matthias Bartosik (Columbia Univ)

SNS, POWGEN (BL-11A)

Avesh Tyagi (Bhabha Atomic Res)
 Glen Kowach (City College of NY)
 Hans-Conrad Loyer (Univ of S Carolina)
 Daniel Bugaris (Univ of S Carolina)
 Craig Bridges (ORNL CSD)
 Zhonghe Bi (ORNL CSD)
 Mariappan Paranthaman (ORNL CSD)
 Jason Hodges (ORNL NScD)
 Ashfia Huq (ORNL NScD)

SNS, TOPAZ (BL-12)

Muhammed Yousufuddin (Univ of Texas)
 Mads Joergensen (Univ of Aarhus)
 Bryan Chakoumakos (ORNL NScD)
 Henrik Clausen (ORNL NScD)

SNS, SEQUOIA (BL-17)

Yunnan Guo (Chinese Academy of Sciences)

Youichi Murakami

Daichi Kawana

Shinichi Ito

Tetsuya Yokoo

Guangyong Xu (Brookhaven Nat'l Lab)

Igor Zaliznyak (Brookhaven Nat'l Lab)

Zhijun Xu (Brookhaven Nat'l Lab)

Genda Gu (Brookhaven Nat'l Lab)

Stephen Nagler (ORNL NScD)

Garrett Granroth (ORNL NScD)

SNS, ARCS (BL-18)

Stephen Shapiro (Brookhaven Nat'l Lab)

Guangyong Xu (Brookhaven Nat'l Lab)

Jinsheng Wen (Brookhaven Nat'l Lab)

Zhijun Xu (Brookhaven Nat'l Lab)

Peter Gehring (Brookhaven Nat'l Lab)

Local Happenings

10/3/2011 Seminar

Modelling of Displacement Cascades in Thin Foils of Iron, Dr. Andy Calder of the University of Liverpool, Building 4100, Conference Room J-302, 11:00 AM – 12:00 NOON

10/7/2011 Seminar

Crystal Growth of Complex Oxides: Effective Strategies for the Discovery of New Phases, Crystal Growth of Complex Oxides, Building 8630, JINS Seminar Room A-202, 11:00 AM – 12:00 NOON

10/7/2011 Seminar

Towards Molecular Informatics: Studies of Mixed Valency and M2d-p Conjugation. Malcolm H. Chisholm, The 2011 S.C. Lind Lecturer Department of Chemistry, The Ohio State University, Columbus, American Chemical Society, East Tennessee Section, Meeting 1:00 - 2:00 PM, Joint Institute for Computational Sciences (Building 5100), Auditorium (Room 128)